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Review of *Pseudopleonexes* Conlan, 1982, With a New Species from Australia (Crustacea: Amphipoda: Ampithoidae)

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ABSTRACT. *Pseudopleonexes sheardi* n.sp. is reported from South Australia. This is the second named species in the genus known previously only from New Zealand. Conlan's (1982) original diagnosis of the genus (type species *Pleonexes lessoniae* Hurley, 1954) and the diagnosis in Barnard & Karaman (1991) differ in several respects. Thirty-six characters from those diagnoses and from *Pseudopleonexes sheardi* are compared in a table, and a number of those characters are discussed. *Pseudopleonexes sheardi* differs from Conlan's diagnosis in the palm of gnathopod 1 being slightly oblique rather than transverse, and in the reduced palp of maxilla 1 having a single article rather than 2. In view of several synapomorphies identified, those differences do not warrant separate generic recognition of *P. sheardi*. A new diagnosis of *Pseudopleonexes* is given. Specimens from New Zealand referred to *P. lessoniae* by Barnard (1972, as *Ampithoe (Pleonexes) lessoniae*) are discussed. The specimens probably represent two separate species, neither belonging to *P. lessoniae*. Further material is required to confirm or reject their inclusion in *Pseudopleonexes*.

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Ampithoid amphipods are common in marine shallow water algal and sea grass beds in all but the coldest parts of the world oceans. Most are relatively large, more than 10 mm, and belong in widely distributed genera. Many build loose abodes of silk and detritus among blades, while others are leaf curlers; a few build transportable abodes of leaf cuttings, or bore into algal stems. Australian ampithoids are poorly known, and until recently were difficult to identify. Poore & Lowry (1997) clarified some long standing problems and described five new species from New South Wales. Just (2000) described two new species from southern Australia.

Hurley (1954) described a new species of Ampithoidae, *Pleonexes lessoniae*, from New Zealand. Three specimens from New Zealand were referred to *Ampithoe (Pleonexes) lessoniae* (Hurley, 1954) by Barnard (1972). Conlan (1982) created the new genus, *Pseudopleonexes*, for *Pleonexes lessoniae*. Barnard & Karaman (1991) presented an expanded diagnosis of *Pseudopleonexes*.

The discovery, in southern Australia, of an undescribed species similar to *P. lessoniae*, but differing in some characters used by Conlan (1982) in her diagnosis of the genus, prompted this review of the genus.

The length of animals was measured from the middorsal front margin of the cephalon along the curvature of the dorsum to the apex of the telson. The material is in the Australian Museum, Sydney. Superscript numbers throughout this work key to bold character numbers in Table 1.

Table 1. Original diagnosis of *Pseudopleonexes* Conlan, 1982 compared with diagnosis in Barnard & Karaman (1991) and *P. sheardi* n.sp. from Australia. Numbers in bold key to superscript numbers in the text where characters are discussed. •, as diagnosed. —, no information given. Text in italics = characters considered diagnostic of *Pseudopleonexes* following discussion in the text.

	Conlan (1982)	Barnard & Karaman (1991)	*P. sheardi* n.sp.
1	*head lobes [ocular lobes] produced, antennal sinus present*	ocular lobes short, antennal sinus weak	•
2	—	eyes absent	eyes present
3	—	*antenna 1 peduncle article 3 shorter than 1*	•
4	—	antenna 2 peduncle article 3 short	•
5	*antenna 1, accessory flagellum absent*	•	•
6	—	epistome produced anteriorly	epistome rounded anteriorly
7	—	*upper lip subrounded, entire*	•
8	*mandibular palp moderately well developed 3-articulate,* articles 2–3 marginally setose	weak, very slender, article 3 rectolinear (?), shorter than 2 (?)	slender, 3-articulate, article 2–3 subequal, 3 with projecting apex, 2–3 with apical setae only
9	—	mandible with reduced molar, somewhat conical, apically blunt	*mandibular molar conical, triturative*
10	*lower lip, outer lobes barely notched*	•	•
11	—	*mandibular lobes short, thick, pointed*	•
12	*maxilla 1 palp reduced, apically setose, lacking spines*	weak, 2-articulate	1-articulate, tiny, 2 apical simple setae
13	—	maxilla 1 outer plate with 7 spines	*maxilla 1 outer plate with 10 robust setae*
14	—	*maxilla 1 inner plate linguiform,* with 1 medial seta	• (*1–2 setae*)
15	—	*maxilla 2 inner plate with medial marginal setae only*	•
16	—	maxilliped inner plate with distal spines; outer plate exceeds palp article 2	inner plate without spines; *outer plate not exceeding palp article 2*
17	—	*gnathopod 2* greatly *larger than 1*	•
18	gnathopod 1 palm transverse	• (almost simple in male)	well developed, nearly straight, slightly oblique
19	—	gnathopod 1 article 5 as long as 6	*gnathopod 1 article 6 longer than 5*
20	—	*gnathopod 2 weakly subchelate, article 2 dilated, 5–6 strongly setose*	• (5–6 medially setose in male only)
21	*coxal plate 1 not forward produced*	•	•
22	—	coxal plates of ordinary length, plates 1–4 progressively longer	*coxal plates 1–5 of equal length, none longer that wide*
23	*coxal plates 1–5 with 1 longer seta posteroventrally*	•	•
24	—	epimeron 3 not bisinuate	•
25	*pereopods 3–4 article 2 strongly inflated*	•	•
26	—	*pereopods 5–7 dissimilar, prehensile, pereopod 5 short with article 2 lobed, pereopods 6–7 article 2 not lobed*	•
27	pereopods 5–7 article 6 distally expanded,	*pereopods 5–7 prehensile, 5 much shorter than and different from 6–7,* spines in anterodistal part only	• (margins parallel)
28	—	*uropods 1–2 rami much shorter than peduncle*	•
29	uropod 1 peduncle distal [ventroapical] process absent	uropods 1–2 peduncle process absent	•
30	*uropod 3 outer ramus uncini and serration strongly developed*	•	•
31	—	*uropod 3 inner ramus shorter than outer ramus, pad-like, apically setose*	•
32	*telson with 2 upcurved, fleshy hooks*	•	•
33	—	telson pentagonal	*telson triangular*

Additional characters from *P. sheardi* n.sp., not in the above diagnoses. See discussion in the text.

(*a*) *epistome and upper lip directed backwards at more that 45 degrees.*
(*b*) *uropod 1 reaching to middle of peduncle of uropod 2 only* (also evident in *P. lessoniae*).
(*c*) *peduncle uropod 2 in male with broad, rounded laterodistal projection* (also evident in *P. lessoniae*).

Taxonomy

To assess the generic placement of the new species from Australia described below, Conlan's (1982) and Barnard & Karaman's (1991) diagnoses are compared (Table 1) together with characters of the new Australian species. Barnard & Karaman addressed the 14 characters listed by Conlan and added 30 characters in their diagnosis. Some characters are omitted from Table 1 as they are generalised ampithoid characters, while some others have been consolidated into one entry. Poore & Lowry (1997), without new information, gave a brief diagnosis of *Pseudopleonexes*, which largely follows Conlan (1982), although their characterisation of the lower lip provides for notched as well as entire outer lobes (weakly notched in the type species); their diagnosis of male gnathopod 1 and pereopods 5–7 combines traits listed by Conlan and by Barnard & Karaman (1991) and in the case of gnathopod 1 apparently includes Barnard's (1972) New Zealand specimens referred to *Ampithoe (Pleonexes) lessoniae*.

Discussion of characters used in diagnoses. In the following discussion, superscript numbers refer to characters in Table 1. The three key papers pertinent to the discussion, Hurley (1954), Conlan (1982) and Barnard & Karaman (1991), are referred to by name of author(s) only. Hurley stated that his new species *Pleonexes lessoniae* lacks eyes. Conlan, [2] studying unspecified material of *Pseudopleonexes*, did not mention lack of eyes in her diagnosis. Lack of eyes was included by Barnard & Karaman in their diagnosis. Specimens referred by Barnard (1972) to *Ampithoe (Pleonexes) lessoniae*, have large well-developed eyes. All other 105+ species of ampithoids and related Biancolinidae have eyes (Thurston & Bett 1993, appendix 1). In the new Australian species, eyes are well developed, but scattering and retraction of ommatidia are evident in some specimens (Fig. 1) presumably as a result of late fixation or tissue contractions due to the preservatives used. This is a common phenomenon in a range of amphipods, which may prevent verifying the presence or absence of eyes from an external examination of preserved material. Lack of eyes in a free-living shallow water species in a family of predominantly shallow-water occurrence, all with eyes, would be unusual if not unlikely. On this basis, I assume that Hurley's assertion was erroneous.

The only corroboration of Barnard & Karaman's statement about an anteriorly produced epistome [6] is the indication of a low, distal bulge in Hurley's fig. 1.6. A similar low bulge is present in the new Australian species (not illustrated). The weak rounding in *Pseudopleonexes* may not merit recognition as a diagnostic character.

Conlan [8] recorded a moderately well developed, 3-articulate mandibular palp (distal part of palp broken in Hurley's original material). Barnard & Karaman suggested that article 3 is shorter than 2 (perhaps as a reference to the condition in the miniature palp shown by Barnard (1972: fig. 13) in his *Ampithoe (Pleonexes) lessoniae* specimens). The new Australian species matches Conlan's diagnosis.

Barnard & Karaman [9] characterised the mandibular molar as reduced, somewhat conical and apically blunt. In the Australian species, the molar is moderately conical with a strong irregularly transverse grinding surface as also shown by Hurley (fig. 1.9) for *P. lessoniae*. Hurley's fig. 1.8 shows the opposing mandible to have a more reduced, apically transverse molar. To judge from the angle of illustration and from the differently sized laciniae mobiles, Hurley may have mistaken the left mandible for the right in the legend to his fig. 1. The mandibles in the Australian species are generally similar to *P. lessoniae*.

Hurley's [12] fig. 1.4 shows maxilla 1 with a reduced palp of two articles not reaching the apex of the inner plate and with apical setae only. In the new Australian species the palp of maxilla 1 is reduced to 1 small article with a few terminal setae. This character may be seen as a difference of generic significance or as a progressive reduction within the same genus. The character must be assessed in the light of overall similarity between *P. lessoniae* and the new Australian species (see conclusion, below).

Hurley [13] explicitly wrote about maxilla 1 "Outer plate... 10 strong, toothed spines". The new Australian species has 10 spines (= robust setae). I conclude that Barnard & Karaman's statement (7 spines) is incorrect. (A similar error is found in Barnard & Karaman's diagnosis of *Pseudoamphithoides* "with 7 spines", although Just [1977, as *Amphyllodomus*] stated "with 9 spines").

Barnard & Karaman [16] diagnosed *Pseudopleonexes* as having "distal spines" on the inner plate of the maxilliped. Hurley's fig. 1.3 shows a single, medioapical, slender robust seta of about half the length of surrounding plumose setae. In the new Australian species there are plumose setae only. This difference is not considered of importance in assessing the generic placement of the Australian specimens.

Furthermore, neither Hurley's fig. 1.3 nor the Australian material corroborate Barnard & Karaman's statement about the outer plate of the maxilliped. In both cases, the outer plate reaches to about the apex of palp article 2.

Conlan's diagnosis of the palm of gnathopod 1 [18] differs from that of Barnard & Karaman. Conlan's diagnosis stresses the transverse nature of the palm; Barnard & Karaman's diagnosis emphasises its reduced size in males. *Pseudopleonexes lessoniae* has a well-developed transverse palm about half the length of the cutting edge of the dactylus, posteriorly defined by one robust seta (Hurley, 1954: fig. 2.1 and 2.2). Barnard & Karaman's interpretation presumably refers to the almost non-existing palm in specimens illustrated by Barnard (1972, fig. 14a,c, as *Ampithoe (Pleonexes) lessoniae*). In the new Australian species, the palm of gnathopod 1 is faintly oblique, slightly convex, between half and two thirds the length of the cutting edge of the dactylus and defined by one robust seta. In addition, Hurley's illustrations and the new Australian species have article 6 of gnathopod 1 [19] distinctly longer than 5 as opposed to Barnard & Karaman's statement.

The shape of the palm of gnathopod 1 is an important character in Conlan's delimitation of ampithoid genera. Hence the significance of the differences outlined are discussed below.

Barnard & Karaman [22] stated that coxal plates are of "ordinary length, progressively elongate from 1 to 4". The meaning of "ordinary" is not clear. Most large ampithoids (e.g., *Ampithoe, Amphithoides, Cymadusa, Paragrubia, Peramphithoe, Pleonexes, Plumithoe, Sunamphitoe*) have coxal plates 1–5 longer than wide and frequently increasing somewhat in length posteriorly, which would seem to be the "ordinary" condition referred to. *Exampithoe* (see Just, 2000) and *Pseudoamphithoides* (see Just, 1977), have short coxae 1–5, i.e. length equalling width or shorter. Hurley's

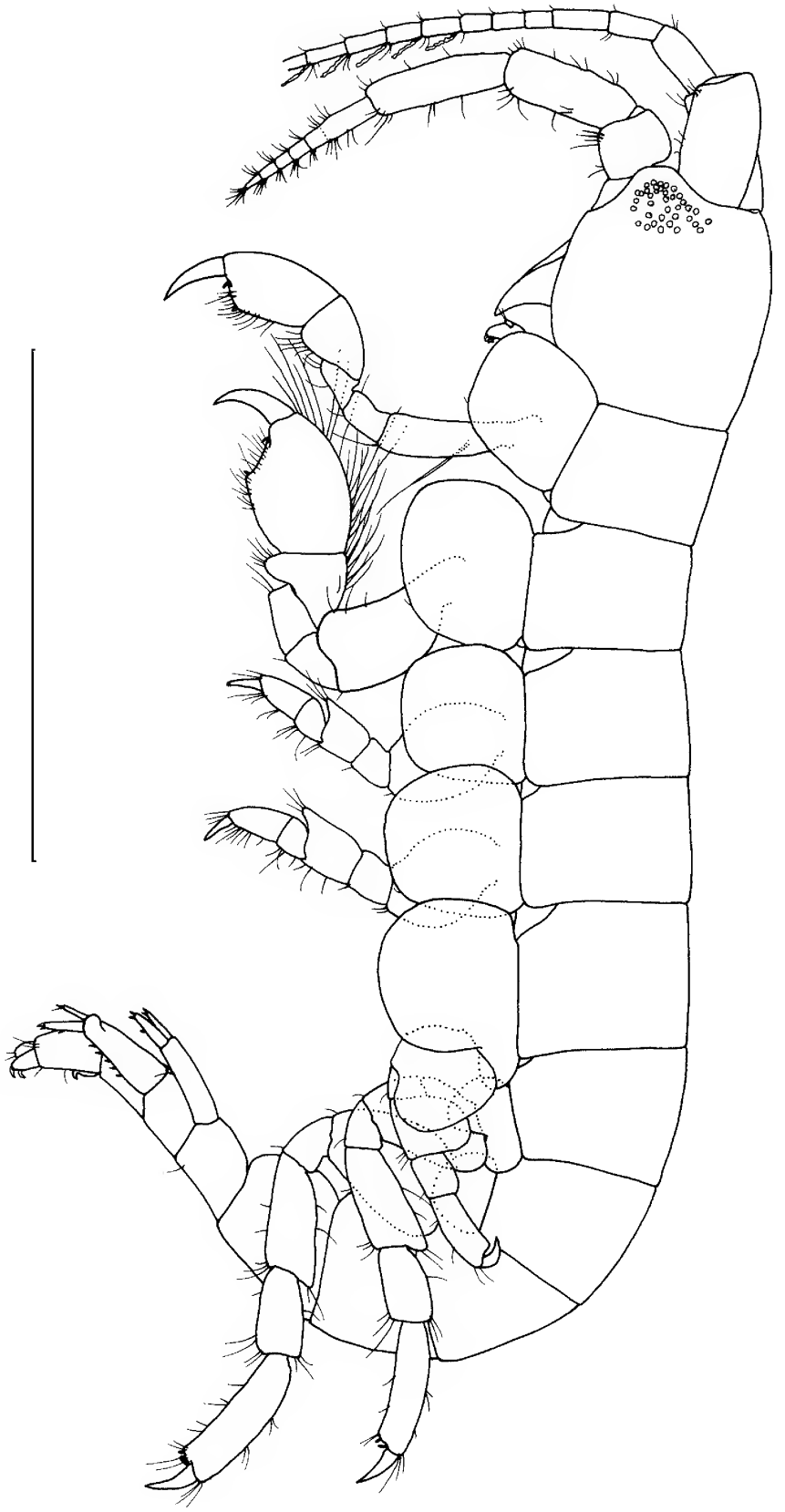

Figure 1. *Pseudopleonexes sheardi* n.sp., holotype, male, 3.5 mm. Scale 1 mm.

illustrations are inadequate for determining the exact length/width relations of individual plates or relative length of successive plates. They do not seem to differ significantly from the new Australian species in which the length of individual plates does not exceed their width, and successive plates are of similar length.

The degree of expansion, article 6 of pereopods 5–7 in *P. lessoniae* [26, 27] decreases from distinct in pereopod 5 to hardly noticeable in pereopod 7 (Hurley, 1954: fig. 2.8–2.10), with a single robust seta defining the prehensile palm in all three pereopods. The new Australian species does not have article 6 expanded in pereopods 5 or 6, but otherwise shares with *P. lessoniae* the short, prehensile palm defined by a single robust seta. Variation in the degree of distal expansion of article 6 in one or more of pereopods 5–7 occurs within most ampithoid genera. At the genus level, prehensility (a short palm with grasping seta(e) and a short, curved dactylus as opposed to simple, non grasping pereopods 5–7) is of greater significance than the degree of extension of the palm resulting in article 6 becoming more or less expanded distally. In this regard, the new Australian species is closely similar to *P. lessoniae*. The new Australian species is in agreement with Barnard & Karaman's statement regarding differences between pereopod 5 and pereopods 6 and 7.

Barnard & Karaman [33] described the telson as pentagonal. While perceptions of form may differ, I believe the telson in *P. lessoniae* is better described as triangular (cf. Hurley, 1954: fig. 1.20; this paper Fig. 4).

Additional characters. Three characters observed in the Australian material but not mentioned by Conlan or Barnard & Karaman have been added in Table 1 (a–c), as I believe all three are of diagnostic value in defining *Pseudopleonexes*.

(*a*) The mouthpart bundle is directed backwards at an unusual angle of more than 45 degrees which, to my knowledge, is unique in the Ampithoidae. Hurley did not mention or illustrate the configuration of the mouthpart bundle.

(*b*) Ampithoids generally have uropod 1 longer than, and reaching well beyond the peduncle of, uropod 2; in most genera uropod 1 reaches about as far back as the apex of the rami of uropod 2. In the new Australian species, uropods 1 and 2 are of equal length, and uropod 1 reaches to about the middle of the peduncle of uropod 2. Hurley did not illustrate the entire urosome, but he wrote of uropod 2 "As long as first; in situ reaching past 1st and 3rd." indicating a configuration relative to uropod 1 similar to the Australian species. Barnard (1972: 44 and fig. 13h) drew attention to the short uropod 1 in his *Ampithoe (Pleonexes) lessoniae*. Only in *Pseudoamphithoides* does the configuration of uropods 1 and 2 approach that described above (Just, 1977: fig. 1).

(*c*) Presence or absence of a mid-ventroapical projection (pointed or blunt) on the rami of uropods 1 (and 2) is of significance in distinguishing between ampithoid genera. Such projections are absent in *Pseudopleonexes* (see character 29, Table 1). Males of *P. lessoniae*, (Hurley, 1954: 625, fig. 1.16), and males of the Australian species (Fig. 4, herein) however, have a broad, rounded distolateral lobe on the peduncle of uropod 2. Whether the projection in *Pseudopleonexes* is homologous with the projection in other ampithoids or not, it is in a unique position and of a unique shape within the family.

Comments on Barnard's (1972) specimens. In the preceding sections I have drawn attention to specimens referred to by Barnard (1972) as *Ampithoe (Pleonexes) lessoniae*. It has not been possible to locate Barnard's material in any New Zealand collection. Barnard illustrated (in part) two males, one of which (JLB NZ-14; 4.8 mm; figs. 13j–p, 14f) shares important, presumably apomorphic, characters with *Pseudopleonexes lessoniae*, notably the distolateral lobe on uropod 2 and the backward pointing epistome-upper lip complex. This specimen has no palm and no defining robust setae on gnathopod 1. The other male (JLB NZ-10; 6.2 mm; figs. 13a–i, 14a–e) lacks the lobe on uropod 2, but shares the short uropod 1 and the broad, apically truncate, weakly notched lower lip with *Pseudopleonexes*. Gnathopod 1 of this specimen was not described or illustrated by Barnard (1972). The two specimens differ from each other in several other details outlined by Barnard (1972: 44) and variously from *P. lessoniae*. As suggested by Barnard (1972) they probably represent separate species. Neither are referrable to *P. lessoniae*.

One or both, notably the male reported as JLB NZ-14, may belong in *Pseudopleonexes*, which can only be confirmed or refuted by studying fresh material. I have found it reasonable, however, to include information from Barnard (1972) in structuring a new diagnosis for *Pseudopleonexes*, primarily in allowing for variation in the palm of gnathopod 2, and in incorporating the shape of the mouthpart bundle.

Conclusion. Because locating Hurley's original material of *Pleonexes lessoniae* in New Zealand collections was not successful, several potential synapomorphies between that species and the new Australian species cannot be evaluated, notably the elongated cephalon and the backward pointing mouthparts. One apparently unique apomorphic character, the distolateral rounded projection on the ramus of male uropod 2, is shared between the two species. In most respects, including details of antennae, mouthparts, pereopods and the entire urosome with uropods, the new Australian species is in good agreement with Hurley's description and illustrations of *P. lessoniae* and with Conlan's diagnosis.

As stated in the discussion of characters above, the new Australian species differs from *Pleonexes lessoniae* Hurley with regard to the palp of maxilla 1, and from Conlan's original diagnosis of *Pseudopleonexes* in respects to gnathopod 1 (Table 1, characters 12 and 18 respectively). I assume that Conlan diagnosed the new genus *Pseudopleonexes* as having the palp of maxilla 1 "reduced", rather than to specify what is obvious from Hurley's description and illustration, to accommodate other potential variations on the theme.

One of the characters used by Conlan in her diagnosis of the new genus *Pseudopleonexes* was the transverse palm of gnathopod 1 (forming a right angle with posterior margin of article 6). The new Australian species has a slightly oblique palm with a rounded posterior corner.

On the basis of current knowledge and in view of the overall similarity between *P. lessoniae* and the new Australian species, including several synapomorphies, I do not find it justifiable to separate them at the generic level on account of the observed variation in the reduction of the palp of maxilla 1 and in the shape of the palm of gnathopod 1.

Pseudopleonexes Conlan, 1982

Diagnosis. (Based on Conlan, 1982, with input from Barnard & Karaman, 1991 and the new species described below; cf. Table 1 and attendant discussion.) Ocular lobes produced, antennal sinus present. Antenna 1 peduncle article 3 shorter than 1; accessory flagellum absent. Epistome and upper lip directed backwards at approximately 45 degrees from the vertical. Upper lip subrounded, entire. Mandibular molar conical, triturative; palp moderately well developed, 3-articulate. Lower lip, outer lobes barely notched; mandibular lobes short, thick, pointed. Maxilla 1 palp reduced, with simple setae apically; outer plate with 10 robust setae; inner plate linguiform with a few short midmedial setae. Maxilla 2 inner plate with medial marginal setae only. Maxilliped outer plate reaching to apex of palp article 2. Gnathopod 2 larger than 1. Gnathopods 1 and 2, article 6 longer than 5. Gnathopod 1 palm variable. Gnathopod 2 weakly subchelate, article 2 dilated, articles 5–6 in male strongly setose medially. Coxal plate 1 not forward produced; plates 1–5 of equal length, none longer than wide, with 1 longer seta posteroventrally. Pereopods 3–4 article 2 strongly inflated. Pereopods 5–7 dissimilar, prehensile, 5 much shorter than 6–7; article 2 of pereopod 5 posteriorly lobed, of 6–7 without lobe. Uropod 1 reaching to approximately the middle of peduncle of uropod 2. Uropods 1–2 rami much shorter than peduncle. Uropod 2 peduncle in male with broad, rounded distolateral lobe. Uropod 3 outer ramus with 2 uncini, one of which weakly bifid, and transverse dorsal rows of acute cuticular scales; inner ramus shorter than outer ramus, pad-like, apically setose. Telson triangular, apically with 2 upcurved, fleshy hooks. Gills on gnathopod 2 and pereopods 3–6.

Pseudopleonexes sheardi n.sp.

Figs. 1–4

Material examined. HOLOTYPE: male, 3.5 mm, South Australia, W.R. Baker, 1910; from Sheard's collection; Australian Museum P35088. PARATYPES: nine specimens (including 2 adult males and 3 ovigerous females), South Australia, Yatala Harbour, Spencer Gulf, 32°45'S 137°55'E, 5 m, MV *Whyalla*, 8 March 1938, K. Sheard; Australian Museum P35090 and P59944 (♀ A, ovigerous, 3.1 mm); all specimens with more-or-less broken antennae and a number of pereopods lost.

Description (male). **Cephalon** longer than deep, lateral length, including ocular lobes, equalling first two pereonites combined, upper and lower margins nearly parallel; ocular lobes well developed, truncate; eyes present, round, (ommatidia scattered in holotype); antennal sinus shallow. Cephalon and body moderately compressed. **Coxal plates 1–4** rounded rectangular, width and depth subequal, plate 5 with anterior lobe similar to plates 1–4; plates 1–4 at most with one short posteroventral seta and a few more anterior tiny setules. **Pleonal sideplates** rounded, plate 3 faintly produced. Habitus of **antennae** close to *P. lessoniae* (Hurley, 1954: fig. 1); actual length of antenna 1 not known, but longer than 2. Peduncular article 4 of antenna 2 dorsally with two small knobs, each carrying a robust seta and a small simple seta; flagellum subequal to peduncular article 5 in length, with 8 articles (holotype) the proximal 2–3 of which are fused, middle 3–4 articles with distomedial rounded projection (Fig. 4). **Mouthparts**: Epistome-upper lip directed strongly backwards in lateral view (see also Barnard 1972: fig. 13j) forming an angle of approximately 45 degrees with the long axis of cephalon, this line of orientation being followed also by the mandibles. Mandibles with well-developed, slender, 3-articulate palp, article 2 with 1 apical seta, article 3 with 3 subapical setae in group, apex of article narrowly produced beyond setal group into marginally setulose, apically rounded point; spine row with broad-based, curved, unilaterally dentate robust setae. Lower lip with minutely bilobate outer lobes, outer sublobation rounded. Maxilla 1, outer plate broad, its plane somewhat rotated relative to inner plate (Hurley, 1954, described and figured the outer plate in *P. lessoniae* as distally tapering, which may be due to his angle of viewing a similarly rotated plate); palp 1-articulate, not much longer than broad at base, with 2 apical setae; inner plate with rounded apex and 2 (left) and 1 (right) medial setae. Maxilla 2 outer plate twice as broad as inner plate. Maxillipeds, outer plate rather slender, approximately twice as long as broad (length measured from apex to level of insertion of palp); inner plate without apical robust setae. **Gnathopod 1** with article 5 approximately ⅓ longer than broad and approximately ¾ the length of article 6; article 6 nearly twice as long as broad, palm convex, slightly oblique, defined distally by small, curved, blunt, striate robust seta and proximally by stout, normal robust seta at rounded wide angled corner. Gnathopod 2 article 2 broadly anterolobate; article 5 as long as broad, upper part of medial surface with field of long pectinate setae with strongly expanded base and even wider socket, setae orientated at right angle with surface (similar setae appear to be present in *P. lessoniae* Hurley, 1954: figs. 2, 4); article 6 nearly twice as long as 5, broadly ovoid, palm oblique, slightly convex (distal half) to concave (proximal half), defined by posterior right angle and robust seta as in gnathopod 1; upper ¼ of medial surface of article densely covered with wide-socketed setae as described for article 5. **Pereopods** 3 and 4 with broadly expanded article 2 (width to length = 4 to 5). Pereopod 5 with article 2 as broad as long, broadly produced posterodistally; article 4 with broadly rounded posterior lobe, article ¼ wider than long. Pereopods 6 and 7 with article 2 posteriorly expanded in proximal half, distally tapering. Palm of pereopods 5–7 similar, with short nearly straight palm defined by 1 stout, normal robust seta at rounded corner, with strong, curved, blunt, striate robust seta at base of dactylus; anterior margin of article 6 otherwise without robust setae. **Gills** short, oval, about twice as long as broad, present on pereopods 2–6. **Pleopods** with a single seta only on posterior surface of peduncle; with two coupling hooks. **Uropod 1** reaching ⅔–¾ along peduncle of uropod 2; peduncle with a single dorsal seta; outer ramus about half as long as peduncle, with 1 dorsal

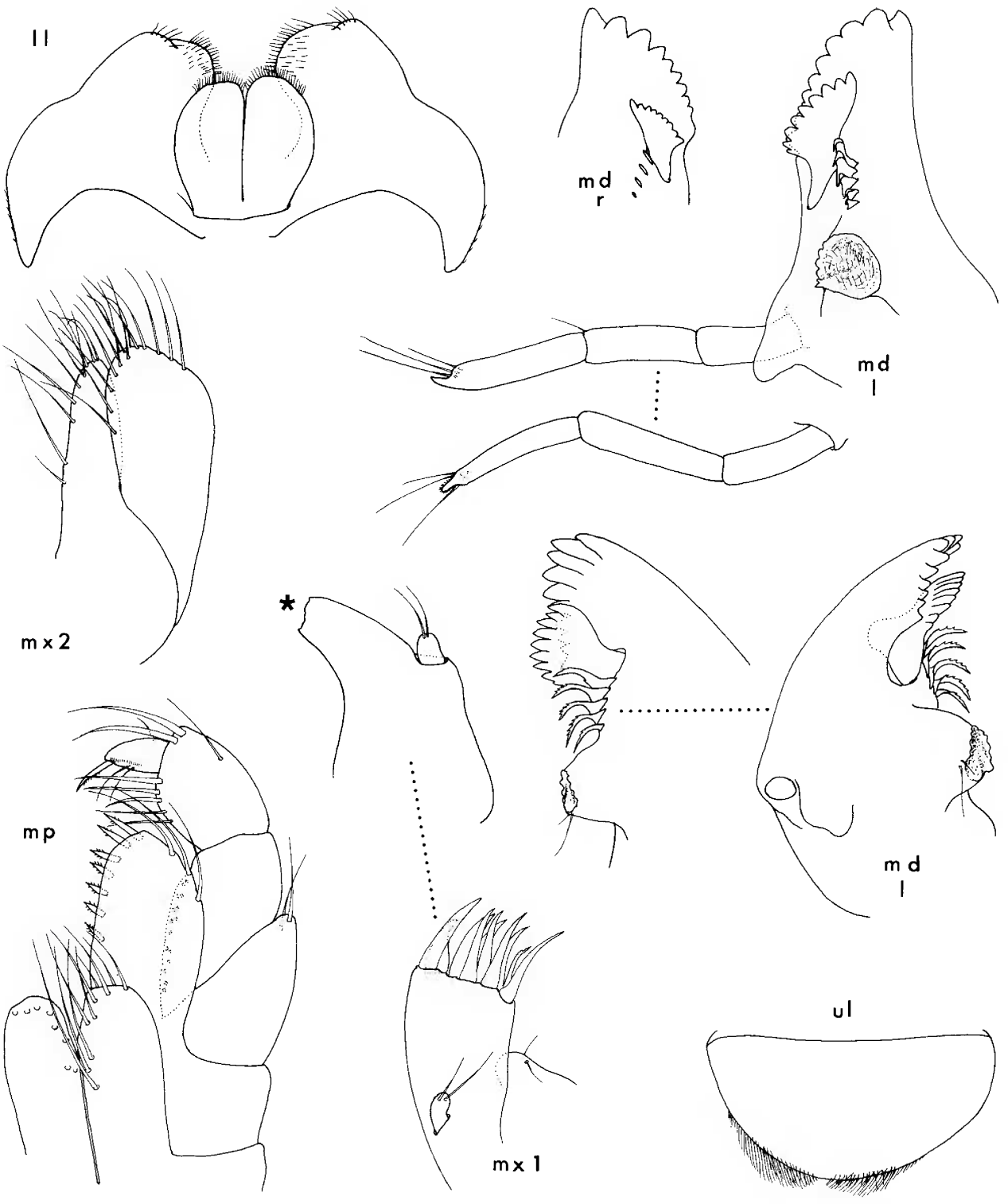

Figure 2. *Pseudopleonexes sheardi* n.sp., holotype. ll, lower lip; md, mandible; mp, maxilliped; mx, maxilla; l, left; r, right; ul, upper lip; *, maxilla 1 in different view, with outer plate apical robust setae omitted.

robust seta and 2 apical robust setae; inner ramus slender, cylindrical, slightly shorter than outer ramus, with 1 apical robust seta and 1 apical seta. Uropod 2 peduncle reaching beyond base of uropod 3, with 4 to 5 short, stout dorsal robust setae and bulbous distolateral lobe; rami as in uropod 1 except outer ramus with 3 apical robust setae of unequal size. Uropod 3, peduncle with a single middorsal seta, 1 to 2 dorsoapical setae and a few lateroapical setae; inner ramus with a few (1–3) apical setae. **Telson** in dorsal view triangular, slightly wider at base than long, lateral margins concave, apex with 2 strong, recurved hooks separated by right angled notch.

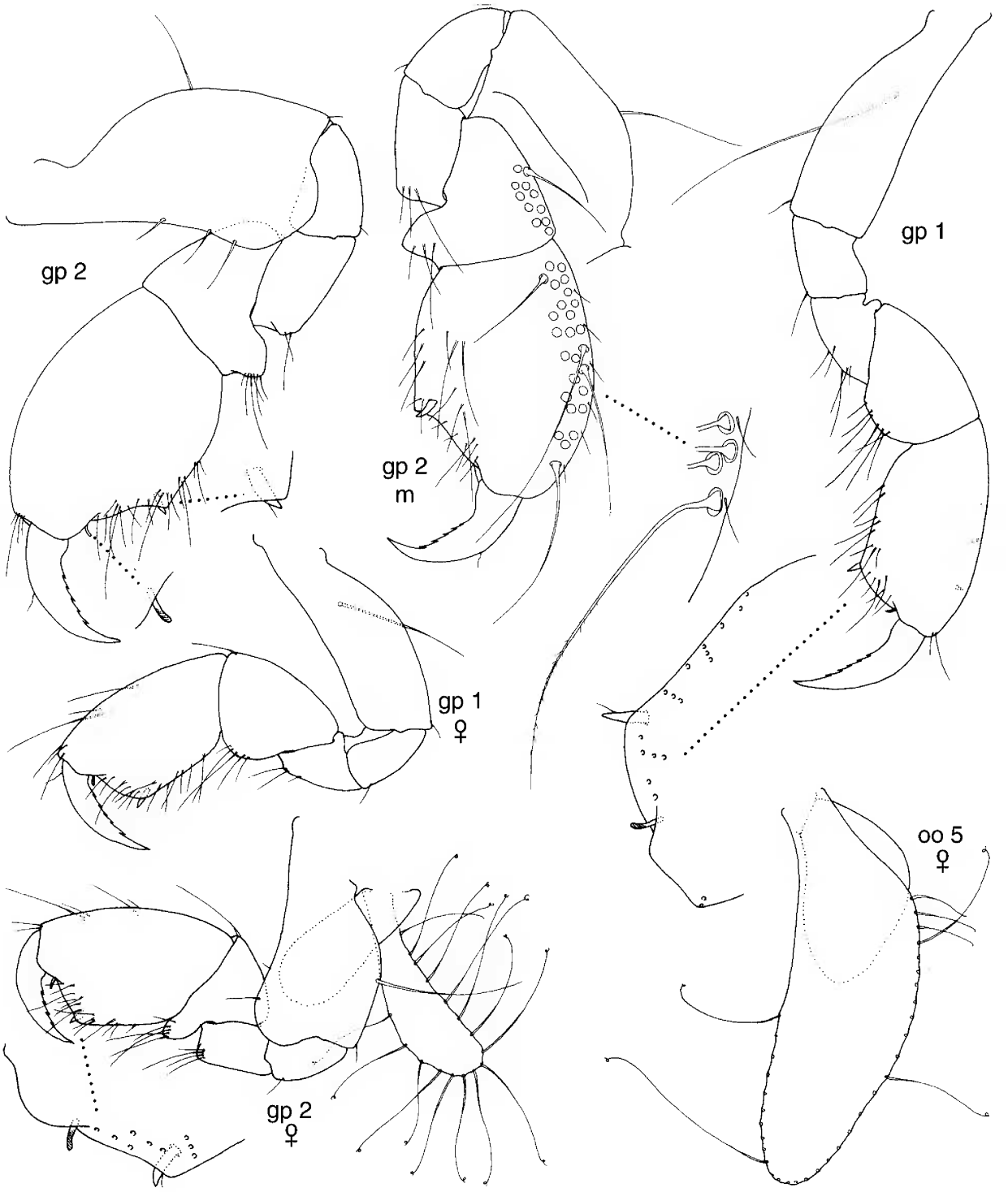

Figure 3. *Pseudopleonexes sheardi* n.sp., holotype, except where otherwise indicated. m, medial view; gp, gnathopod; oo 5, oostegite of pereopod 5; ♀, female paratype A.

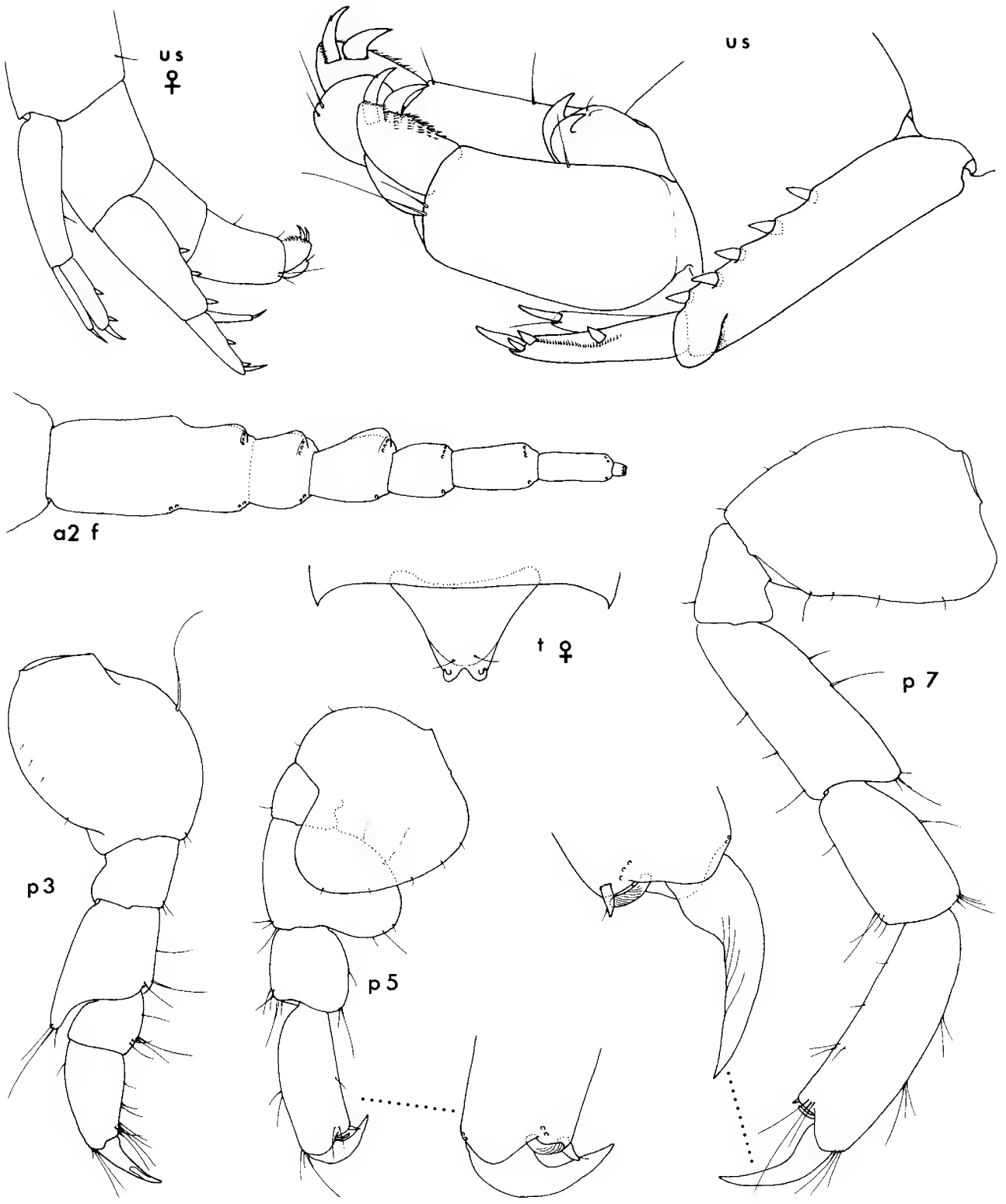

Figure 4. *Pseudopleonexes sheardi* n.sp., holotype, except where otherwise indicated. a2 f, antenna 2 flagellum; p, pereopod; t, telson; us, urosome; ♀, female paratype A.

Female. Differing from male in the following points: cephalon slightly less elongate. Article 6 of gnathopod 2 less strongly ovoid, with palm less oblique; articles 5 and 6 lacking specialised, wide-socketed setae. Peduncle of uropod 2 without lateroapical projection, with fewer dorsal robust setae.

Oostegites present on gnathopod 2 and pereopods 3–5, slender oval with long curly-tipped setae.

Size. Largest male: 3.8 mm; largest female: 3.3 mm; size range of ovigerous females: 3.1–3.3 mm.

Distribution. South Australia, Spencer Gulf, shallow water.

Etymology. The species is named after the Australian carcinologist K. Sheard, who collected the bulk of the specimens.

Remarks. *Pseudopleonexes sheardi* n.sp. differs from *P. lessoniae* in the following points: outer sublobation of lower lip rounded (pointed in *P. lessoniae*); gnathopods without tuft of long setae on posterior margin of article 2 (with such tuft); article 5 of gnathopod 1 one and a half times longer than deep (twice as long as deep); pereopods 3 and 4 article 2 without posteromarginal tuft of long setae (with such setae); pereopods 5–7 generally shorter and more robust, especially pereopod 5; article 4 of pereopods 5–7 without anterodistal projection (with projection); peduncle of uropod 1 without row of dorsolateral robust setae (with such setae); uropod 3, peduncle with a few scattered setae (3 to 4 groups of dorsal plumose setae), apex of inner ramus with a few simple setae (with about 9 plumose setae). *Pseudopleonexes sheardi* is a distinctly smaller species with largest known male <4 mm (male: 9 mm, female: 5.75 mm; Hurley, 1954).

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